X-rays do not sensibly modify the colour of the diamond, but considerable change is brought about by the action of the kathode rays, the diamond developing a yellow tint. This tint is permanent at the ordinary temperature, but an exposure to a temperature of 300° to 400° C. rapidly restores the original tint.—André **Meyère**: The influence of radium, the X-rays, and the kathode rays on various precious stones. The stones examined in these experiments were the diamond, and white, blue, and rose corundums. One effect only was produced by all three radiations—the stone became more or less tinted yellow.—J. B. **Senderens**: The catalytic preparation of unsymmetrical fatty ketones. Thoria is the most suitable catalyser for the purpose of these experiments, and is employed at a temperature of 400° to 430° C. A mixture of fatty acids passed over this reagent gives the ketone according to the equation

$$R.CO.OH + R'.CO.OH = R.CO.R' + CO_2 + H_2O.$$

Small quantities of the two symmetrical ketones are formed simultaneously, but the three ketones are readily separated by fractional distillation.—G. **Vavon**: Hydrogenations in the terpene series. Pinene rapidly absorbs hydrogen in the presence of platinum black, giving a nearly quantitative yield of the hydrocarbon $C_{10}H_{18}$. Camphene and limonene behave similarly. In alcoholic solution hydrogen can be added in this way to maleic, fumaric, and cinnamic acids, and to erucic acid in ethereal solution.—T. **Klobb**: The phytosterols from the flowers of *Tussilago farfara*. Two new alcohols are described, one being a monovalent phytosterol, the other divalent and resembling arnidiol in its behaviour.—Georges **Darzens**: The catalytic hydrogenation of the quinoline and aromatic bases. The exact temperature at which the nickel oxide is reduced, and the temperature at which the catalysis is carried out, are the two essential factors in the successful reduction of quinoline and aromatic bases. The preparation of tetrahydroquinoline is described.—Paul **Gaubert**: The polychroism of artificially coloured crystals.—H. A. **Brouwer**: Certain lujaurites from Pilandsberg, Transvaal.—Lucien **Daniel**: A new graft hybrid.—F. **Bordas** and M. **Touplain**: An anaëroxydase and a catalase in milk. Repeating some work of M. Sarthou, the authors come to the conclusion that the existence of an anaëroxydase and a catalase in cow's milk has not been demonstrated; the colour reactions produced in milk on treatment with hydrogen peroxide are due to casein or its compound with lime.—L. **Cuénot** and L. **Mercier**: Studies on the cancer of mice. Relation between the grafting of the tumour, gestation, and lactation.—C. **Levaditi** and K. **Landsteiner**: The transmission of infantile paralysis to the chimpanzee.—Jacques **Pellegrin**: A new parasitic fish of the genus Vandellia.—A. **Gruvel**: The dispersion of some species belonging to the marine fauna of the coasts of Mauritania.—Paul **Lemoine**: The subterranean folds of the Gault in the Paris basin.—André **Delebecque**: The origin of the plain of Rocailles (Haute Savoie).—M. **Répelin**: The *rôle* of the most recent dislocations (post-Miocene) in the earthquake of June 11, 1909.

DUBLIN.

Royal Irish Academy, November 8.—Dr. F. A. Tarleton, president, in the chair.—Dr. R. F. **Scharff**: The evidences of a former land-bridge between northern Europe and North America. The author explained that he was only dealing with the most recent land-bridge of which we had any evidence between the two continents. The testimony in favour of this theory is of a two-fold character. It is based on an investigation of the sea-floor and on a study of the plants and animals of the countries supposed to have been joined to one another by land. The author alluded principally to the continental shelves and to the researches of Prof. Hull, Dr. Spencer, and Dr. Nansen. He also brought forward botanical and zoological evidence pointing to the existence of a former continuous land surface between north-western Europe and eastern North America. The theory of accidental transport of species across the ocean was especially commented upon and discussed, but the author was inclined to adopt the view that the similarity between the fauna and flora of the two continents was mainly due to a pre-Glacial land-bridge connecting Scotland with the Færöes, Iceland, Greenland, and Labrador.

NEW SOUTH WALES.

Linnean Society, September 29.—Mr. C. Hedley, president, in the chair.—E. W. **Ferguson**: Revision of the Amycteridæ (Coleoptera), part i., the genus Psalidura. The family Amycteridæ comprises several groups of hard-shelled, apterous, and solely terrestrial weevils. The genus Psalidura comprises the group the distinguishing character of which is that the males possess anal forceps. The previously described species, numbering 37 in Masters's Catalogue, have been revised, and reduced to 24, to which number 22 new species are added, making a total of 46 species. Of these, it has not been possible to examine any specimens of four species, of which three—*P. D'urvillei*, *P. mirabunda*, and *P. squalida*—were described originally from female specimens only (and the descriptions are, therefore, almost valueless).—T. H. **Johnston**: The Entozoa of monotremes and Australian marsupials.—T. H. **Johnston** and Dr. J. B. **Cleland**: Notes on some parasitic Protozoa.—J. H. **Maiden** and E. **Betche**: Notes from the Botanic Gardens, No. 15, on a plant, in fruit, doubtfully referred to Cymodocea.

October 27.—Mr. C. Hedley, president, in the chair.—A. M. **Lea**: Revision of Australian Curculionidæ, subfam. Cryptorhynchides, part x. The tenth instalment of the revision continues the consideration of the genera allied to Chætectetorus, all of them belonging to the "Cryptorhynchides vrais" of Lacordaire. Twelve genera, and thirty-eight species, including fifteen proposed as new, are described.—A. F. B. **Hull**: The birds of Norfolk and Lord Howe Islands. The number of species actually known to breed at the present time amounts to twenty-nine for Norfolk and twenty-one for Lord Howe Island.—R. J. **Tillyard**: Studies in the life-histories of Odonata. No. 3. Notes on a new species of Phyllopetalia, with descriptions of nymph and imago. The species here named *Phyllopetalia patricia*, n.sp., was described by the author in 1906 under the name of *P. apollo*, Selys. Further investigation has shown it to be possessed of a number of important peculiarities, marking it out as a distinct species. The discovery of the nymph by Mr. Keith Brown at Leura, Blue Mountains, is of the greatest importance to ontogenists, as the specimen is the only known form of the Petalia group of dragon-flies. Evidence is brought forward, mainly on the form of the labium, strongly supporting the view advocated by Dr. F. Ris, that the Petalia group is not referable to the Cordulegasterinæ at all (though at present placed in that subfamily), but is an archaic remnant of the true Æschninæ.—Dr. H. I. **Jensen**: Notes on some recent work on the rocks of Samoa. Prof. M. Weber, of Munich, recently published an exhaustive report on the petrography of the Samoan Islands, based upon the examination of a very complete series of rocks collected by Herr J. Friedländer in 1907. Additional light is thrown upon two problems discussed in the author's two papers on the geology of Samoa, &c., in the Proceedings for 1906 (p. 164) and 1907 (p. 706), namely, the significance of the case of a recently erupted basalt which, on analysis, showed a higher soda content than was to be expected from the results of the petrological examination; and the bearing of the subalkaline composition of the Samoan lavas now established by Weber, upon the hypothesis that the eruptions along the Samoa-Tonga-Taupo line depend upon an earth-folding movement (*loc. cit.*, 1906, pp. 661–2).

DIARY OF SOCIETIES.

THURSDAY, DECEMBER 9.

ROYAL SOCIETY, at 4.30.—The Hexosephosphate formed by Yeast-juice from Hexose and Phosphate: W. J. Young.—On the Presence of Hæm-agglutinins, Hæm-opsonins, and Hæmolysins in the Blood obtained from Infectious and Non-infectious Diseases in Man (Third Report): L. S. Dudgeon and H. A. F. Wilson.—Gametogenesis of the Gall-fly *Neuroterus lenticularis* (*Spathegaster baccarum*), Part I.: L. Doncaster.—Preliminary Note upon the Cell Lamination of the Cerebral Cortex of

Echidna, with an Enumeration of the Fibres in the Cranial Nerves: Dr. E. Schuster.—Cortical Lamination and Localisation in the Brain of the Marmoset: Dr. F. W. Mott, F.R.S., Dr. E. Schuster, and Prof. W. D. Halliburton, F.R.S.—The Caudal Fin of Fishes (Preliminary Paper): R. H. Whitehouse.—Some Experiments with the Venom of *Causus rhombeatus*: H. E. Arbuckle.—On the Comparative Action of Stovaine and Cocaine as measured by their Direct Effects upon the Contractivity of Isolated Muscle: Dr. V. H. Veley, F.R.S., and Dr. A. D. Waller, F.R.S.—*Glossina palpalis* as a Carrier of *Trypanosoma vivax* in Uganda: Colonel Sir David Bruce, C.B., F.R.S., Captains A. E. Hamerton and H. R. Bateman, R.A.M.C., and Captain F. P. Mackie, I.M.S.—A Critical Study of Spectral Series. Part I., The Alkalies, H and He: Prof. W. M. Hicks, F.R.S.—On the Distribution of the Röntgen Rays from a Focus Bulb: G. W. C. Kaye.—On the Nature of the Ionisation of a Molecule by an α Particle: R. D. Kleeman.—Conduction of Heat through Rarefied Gases: F. Soddy and A. J. Berry.—Harmonic Tidal Constants for Certain Chinese and New Zealand Ports: T. Wright.—The Photographic Action of the α Particles emitted from Radio-active Substances: S. Kinoshita.

MATHEMATICAL SOCIETY, at 5.30.—Exhibition of an Instrument for Solving Cubic Equations: T. H. Blakesley.—The Connection between the Theories of the Singularities of Surfaces and Double Refraction: A. B. Basset.—On the Representation of a Group of Finite Order as a Group of Linear Substitutions with Rational Coefficients: Prof. W. Burnside.—The Eliminant of the Equations of Four Quadric Surfaces: A. L. Dixon.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Notes on Methods and Practice in the German Electrical Industry: L. J. Lepine and A. R. Stelling.

ROYAL SOCIETY OF ARTS, at 4.30.—The Punjab: Sir James Wilson, K.C.S.I.

FRIDAY, DECEMBER 10.

ROYAL ASTRONOMICAL SOCIETY, at 5.—On certain Families of Periodic Orbits: Sir G. H. Darwin.—Description of a Field Method for the Determination of Latitude with a Theodolite: N. S. Bartlett.—Southern Double Star Measures: G. D. Hirst.—Note on certain Coefficients appearing in the Algebraical Development of the Perturbative Function, Second Paper: R. T. A. Innes.—On the Modern Theory of Aberration: H. C. Plummer.—*Probable Paper*: On the Diagrammatic Representation of Proper Motions: H. H. Turner.

MALACOLOGICAL SOCIETY, at 8.—Note on the very young Stage of the Genus Humphreyia: G. A. Smith.—A Further Note on the Anatomical Differences between the Genera Cypræa and Trivia: H. O. N. Shaw.—A New Mexican Genus of Pleuroceratidæ: Prof. H. A. Pilsbry.—Notes on a Collection of Terrestrial Land Shells from Angola, with Description of New Species: H. B. Preston.—Notes on the Genus Libera: J. H. Ponsonby.

MONDAY, DECEMBER 13.

ROYAL SOCIETY OF ARTS, at 8.—Aëronautics: C. C. Turner.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Exploring Journeys in Turkey-in-Asia: Capt. Bertram Dickson.

TUESDAY, DECEMBER 14.

ZOOLOGICAL SOCIETY, at 8.30.—(1) On Change of Colour in a Specimen of *Mellivora ratel* living in the Society's Gardens; (2) A Comparative Examination of Three Living Specimens of *Felis tigris sondaica*, with Notes on an old Javan Male: Dr. F. D. Welch.—The Nesting-habits of *Phyllomedusa sauvagii*: Dr. W. E. Agar.—(1) Marine Fauna from the Mergui Archipelago, Lower Burma, collected by Jas. J. Simpson and R. N. Rudmose-Brown: Madreporaria; (2) Marine Fauna from the Kerimba Archipelago, Portuguese East Africa, collected by Jas. J. Simpson and R. N. Rudmose-Brown: Madreporaria: Ruth M. Harrison and Margaret Poole.—(1) Some Notes upon *Boa occidentalis* and *Boa* (*Pelophilus*) *madagascariensis*; (2) Notes upon the Anatomy of Monkeys of the Genus Pithecia: F. E. Beddard, F.R.S.—On the Ophidian Genus Grayia: G. A. Boulenger, F.R.S.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Railway Signalling in India: C. W. Hodson.

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.15.—Notes on a Recent Ethnographical Expedition to the Congo: E. Torday.

WEDNESDAY, DECEMBER 15.

ROYAL SOCIETY OF ARTS, at 8.—The Diamond Fields of Brazil: H. Pearson.

ROYAL METEOROLOGICAL SOCIETY, at 7.30.—The Variations of Currents of Air indicated by Simultaneous Records of the Direction and Velocity of the Wind: Dr. W. N. Shaw.—(1) South American Rainfall Types; (2) The Study of Phenomenal Climatology: W. G. Reed.

GEOLOGICAL SOCIETY, at 8.—The Metallogeny of the British Isles: A. Moncrieff Finlayson.—The Skiddaw Granite and its Metamorphism: R. H. Rastall.—The Geological Structure of Southern Rhodesia: F. P. Mennell.

ROYAL MICROSCOPICAL SOCIETY, at 8.—On the Measurement of Grayson's Ten Band Plate: A. A. C. E. Merlin.—Convenient Form of Stand for Use as a Micro-colorimeter and with Micro-spectroscope: Dr. D. Marshall Ewell.—On the Life-history of the Hessian Fly, with Notes on the Tenby Wheat Midge: F. Enock.

THURSDAY, DECEMBER 16.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Some Quantitative Measurements in Connection with Radio-telegraphy: Dr. J. A. Fleming, F.R.S.—Efficiency of Short Spark Methods of Generating Electrical Oscillations: Dr. W. H. Eccles and A. J. Makower.

LINNEAN SOCIETY, at 8.—Report on the Crustacea Isopoda and Tanaidacea collected by Mr. C. Crossland in the Sudanese Red Sea: Rev. T. R. R. Stebbing, F.R.S.—Pycnogonida from the Red Sea and Indian Ocean collected by Mr. C. Crossland: Prof. G. H. Carpenter.—On a Collection of Blattidæ preserved in Amber from Prussia: R. Shelford.—Isopoda from the Indian Ocean and British East Africa: Rev. T. R. R. Stebbing, F.R.S.—The Bryozoa from Collections made by Mr. C. Crossland, Part II., Cyclostomata, Ctenostomata, Endoprocta: A. W. Waters.

INSTITUTION OF MINING AND METALLURGY, at 8.

FRIDAY, DECEMBER 17.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Mild-steel Tubes in Compression and under Combined Stress: W. Mason.—Compound Stress Experiments: C. A. M. Smith.

INSTITUTION OF CIVIL ENGINEERS, at 8.—The Foundation and Construction of Dock Walls: H. T. Tudsbery.

CONTENTS.